

THE UNIVERSITY OF CHICAGO

FAVORABLE AND UNFAVORABLE ATTITUDES
TOWARD PREGNANCY IN PRIMIPARAE

A PART OF A DISSERTATION SUBMITTED TO
THE FACULTY OF THE DIVISION OF THE BIOLOGICAL SCIENCES
IN CANDIDACY FOR THE DEGREE OF
DOCTOR OF PHILOSOPHY

DEPARTMENT OF PSYCHOLOGY

1964

By

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CHICAGO, ILLINOIS

Reprinted from
The Journal of Genetic Psychology
Vol. 55, No. 2, December 1957

The University of Chicago

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Private Edition, Distributed by
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Reprinted from
THE JOURNAL OF GENETIC PSYCHOLOGY
Vol. 51, No. 2, December 1937



FAVORABLE AND UNFAVORABLE ATTITUDES TOWARD PREGNANCY IN PRIMIPARAE*

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I. ORIENTATION

In the last decade there has been a decided shift among clinicians and teachers dealing with children's problems from emphasis on the child, to emphasis on the parent-child relationship. The mother-child relationship especially has become the focus of attention. Therefore it is of interest to know what the mother's reactions are, uncomplicated by the sex and personality of the child, and what factors influence this attitude most strongly. The present study of the attitudes of expectant mothers was undertaken with this problem in view.

The writings of David Levy (6, 7) contain one of the most fertile hypotheses on factors influencing the maternal attitude toward the existing child. His suggestion that the mother's early emotional impoverishment, too much early responsibility, and unsatisfactory marital adjustment, among other things, affect her later attitude, was adopted for this study of the factors influencing the woman's attitude toward her expected child. Other factors that were thought to be of potential importance for the attitude of the primipara, and so were included for consideration in this study were: (a) the subject's ordinal position in her family, (b) the number and sex of her siblings, (c) the age at which she obtained her sex information, and the sources from which it came, (d) her feeling of economic security during marriage and pregnancy, (e) her neurotic tendency, and lastly, (f) the physiological manifestations of normal development and pregnancy.

II. METHOD AND PROCEDURE

Criterion

One important purpose of this investigation was to determine

*Recommended for publication by F. A. Kingsbury, and received in the Editorial Office on February 5, 1937.

whether entities as amorphous as attitudes toward pregnancy and influences contributing to it could be studied by an objective method.

Previous studies of the mother-child relationship had used as criteria the psychiatrist's or social worker's opinion of the mother's attitude. This is extremely subjective, demands either a full case history or a long time observation, and judges the mother in terms of her actual behavior toward the child. Attempts have been made by Laws (6) and by Fitz-Simons (2) to find objective standards, but their methods also demand a long experience with the actual mother-child relationship. In the present study, the writer could not use any criterion depending on the already existing relationship, and did not want to use any criterion that would take a long time, or that would depend on a personal evaluation. Therefore, it was decided to use as criterion the total score on a number of questions directly concerning the woman's feelings toward pregnancy and the manner in which it affected her daily life.

The Questionnaire

A questionnaire was also decided on as the best method available for obtaining the type of information desired. The answers to the questions are not taken as facts, but as events that have been shaped in the subject's memory by her needs and desires, especially in the light of her present experience. The emotional coloring she gives to past events is more important for this study than their factual accuracy. Therefore, the answers are taken as they are given, but they are not to be understood as literal representations of the past.

The questionnaire contained sections on descriptive data, sex education, physiological functions, childhood, marriage, and pregnancy. This last section served as criterion. Each question was made as specific and simple as possible, and was answerable on a graphic scale.

At the end of the questionnaire was a short version of the Thurstone Personality Schedule as revised by R. R. Willoughby (10).

Statistical Treatment

The questions were scored by a stencil that divided the line into five equal parts.

After experimenting with the available correlational methods, it was found they were not satisfactory, so it was decided to use the

method of group differences. The groups to be compared were the most favorable and least favorable quarters of the whole group examined, chosen on the basis of their scores on the criterion section. Separate items were scored in both these groups and when the obtained difference between the two means for any one item was greater than three times its probable error, it was considered significant enough to be given further discussion.

In some cases the answers to the descriptive questions were given in terms of two categories instead of on a scale. For these, the probable error of proportion (5) was used and the difference divided by its probable error handled in the same way. The probability that these differences were real could then be compared for all types of data.

The reliability of the separate items of the questionnaire was determined by using the coefficient of contingency. The reliability of the total score on each section was measured by the Pearsonian coefficient of correlation.

Procedure with the Individual Subject

The subjects were seen in the regular pre-natal clinics of the Lying-In and Michael Reese Hospitals in Chicago. The questionnaire was filled out in a private interview with the writer while the subject was making her routine clinic visit. A uniform approach was made to all subjects and uniform instructions were given. The patient understood that filling out the questionnaire was voluntary. There were almost no refusals.

Groups to Whom Questionnaire Was Given

The questionnaire in rough form was first given to several preliminary groups to see if results could be obtained by this method, to see whether the subject responded best to a verbal or to a graphic scale, and to see which questions were phrased so as to be easily understood by the group for whom they were intended. After going over these papers carefully, omitting words and questions that were not clear or easy for the subjects to understand, the questionnaire was thoroughly revised and put in final form.

This form of the questionnaire was then given to 100 unselected primiparae. After this group was completed, the questionnaire was repeated with 25 of the same subjects in order to test the reliability

of the questionnaire itself. It was not necessary to repeat the giving of the Personality schedule since its reliability is already given by Willoughby (11).

While 153 women who were approached cooperated entirely, four others approached in the same manner were unwilling to answer the questionnaire, giving as reasons that they would rather not, they couldn't remember their childhood, or that they were afraid they would lose their place in line to see the doctor.

Description of Subjects

Eighty-six per cent of the final group were born in the United States. The average age was 23.17. Forty-one were Protestant, 38 were Catholic, and 12 were Jewish. Nine had other religions or none. The average school attendance for the group was 9.73 years. The subjects had worked an average of 4.80 years, and the present yearly income was between \$540 and \$1,500. Eight subjects were dependent or on relief, and three had incomes between \$1,500 and \$2,400.

III. RESULTS

Reliability

The reliability of the separate questions as measured by *C* ranged in magnitude from 48 to 85. The mean was at 75.40.

The reliability of the total score of each section of the questionnaire was determined by the Pearsonian coefficient of correlation. The reliabilities of the sections were:

- I. Childhood $+.90 \pm .01$.
- II. Marriage $+.81 \pm .02$.
- III. Pregnancy $+.86 \pm .02$ (Criterion).

Validity

The relationships and facts by which the criterion is validated are as follows:

1. The criterion asks direct questions concerning the attitude being measured.
2. The criterion shows large group differences between the first and fourth quartiles of a fairly homogeneous group.
3. The internal consistency of the criterion section is high. The agreement between it and all the items of which it is composed indicates that the items, though different, are closely related.

TABLES 1A AND 1B
COMPARISON OF FAVORABLE AND UNFAVORABLE PRIMIPARAE IN RESPECT TO DESCRIPTIVE DATA
Data Sheet 1

Item	1A (PE of the difference)			1B (PE of the proportion)					D
	M ₁	M ₂	PE _D	D	PE _D	Item	P ₁	P ₂	PE _D
No. brothers	2.00	1.00	.27	-3.74		Husb. employed	1.00	.76	.06
Time husb. employed	4.12	1.92	.69	-3.19		Only child	.00	.16	.05
No. sibs	3.92	2.76	.42	-2.74		Jewish	.00	.16	.05
Age at marriage	21.12	19.92	.46	-2.63		Intermediate child	.56	.32	.09
Present age	23.20	21.52	.68	-2.47		Protestant	.60	.36	.09
Clinic age fee	51.60	43.60	3.29	-2.43		Catholic	.28	.44	.09
Yrs. bus. training	4.62	1.92	1.35	-2.00		Oldest child	.20	.32	.08
Yrs. husb.'s schooling	11.17	10.38	.43	-1.82		Husb. emp'd full time	.80	.75	.08
Yrs. wife's schooling	9.96	9.48	.35	-1.36		Youngest child	.24	.20	.08
Yrs. married	1.95	1.60	.30	-1.16		Own parents until 16	.80	.76	.08
Yrs. working	4.80	4.12	.67	-1.01		Born outside U. S.	.10	.10	
Husb's age	27.16	26.44	.92	-.78					
No. sisters	1.92	1.76	.27	-.59					
Liked work	1.68	1.64	.15	-.27					
Month gestation	7.08	7.08							

M₁: Mean score of the 25 per cent of the group most favorable toward pregnancy, hereafter called Group I. Items on the questionnaire are scored from 1 to 5, 1 being the most favorable reply.

M₂: Mean score of the most unfavorable 25 per cent, hereafter called Group II.

PE_D: Probable error of the difference between the means.

D

PE_D: From this ratio is calculated the probability that the difference is a real one (see H. Garrett, *Statistics in Psychology and Education*, New York: Longmans, Green and Co., 1931, Table XV, p. 135). A minus sign before this ratio indicates that M₁ or P₁ is larger than M₂ or P₂.

P₁ and P₂: This number is the proportion of each group which falls within the corresponding classification listed in the column headed "Item."

Each item is scored in terms of its natural unit except "liked work" which was arbitrarily scored from 1 to 3, 3 indicating the strongest liking for work.

Apparent mathematical discrepancies in this and the following tables are due to the fact that all calculations were made with four place numbers which were then reduced to two places. In no case does this alter the final probability.

TABLE 2A
COMPARISON OF FAVORABLE AND UNFAVORABLE PRIMIPARAE IN RESPECT TO SEX
EDUCATION AND PHYSIOLOGICAL DATA
Data Sheet 2
(PE of the difference)

Item	M ₁	M ₂	PE _D	$\frac{D}{PE_D}$
Age of learning re sex	16.09	13.83	.58	—5.90
Age of learning re birth	13.62	12.13	.55	—2.70
Age of learning re menst.	11.89	11.76	.37	— .35
<i>Menstruation</i>				
Pain	1.00	1.60	.22	2.74
Age at onset	13.04	13.36	.31	1.04
Duration in days	4.28	4.44	.25	.48
Interval	27.64	27.95	1.02	.30
<i>Nausea</i>				
Duration in weeks	4.68	8.00	1.08	3.09
Severity	1.04	1.64	.21	2.85
Daily frequency	1.32	1.52	.20	.98
Week it began	5.13	5.19	.62	.10

4. The results agree in many respects with those of analogous studies on the mother-child relationship.

5. The items of Sections I and II that show most agreement with the criterion build up a consistent and logical picture of factors associated with a favorable or unfavorable attitude toward pregnancy.

6. The range of scores on the criterion was 8 to 39 out of a possible 8 to 40. This range and the fairly normal distribution of scores indicate that lack of frankness in the subjects, if any, did not seriously affect results.

Relation of Neurotic Tendency

A question closely related to the validity of the investigation is: how far are the items that are related to an unfavorable attitude toward pregnancy chiefly the expression of a general neurotic tendency. The results of measuring the Inventory against the criterion follow:

M ₁	M ₂	PE _D	$\frac{D}{PE_D}$
19.56	31.16	2.75	4.22

TABLE 2B
COMPARISON OF FAVORABLE AND UNFAVORABLE PRIMIPARAE IN RESPECT TO
SEX EDUCATION AND PHYSIOLOGICAL DATA

Data Sheet 2
(PE of the proportion)

Item	P ₁	P ₂	PE _D	$\frac{D}{PE_D}$
Baby planned for	.80	.37	.08	—5.18
Complaints	.36	.64	.09	3.08
Used contraceptives	.12	.36	.08	3.08
<i>During Menst.</i>				
Crabby	.44	.67	.09	2.47
Has pains	.52	.68	.09	1.76
Depressed	.24	.35	.09	1.25
Tired	.44	.54	.10	1.05
<i>During pregnancy</i>				
Vomited.	.44	.80	.09	4.19
Nauseated	.52	.80	.09	3.26
<i>Subjects and Sources of Sex Education</i>				
*Friend—total	.20	.40	.05	3.92
*Sister: total	.17	.04	.03	—3.82
Sister: sex relations	.25	.00	.06	—3.82
*Misc.: total	.01	.09	.02	3.33
Sister: birth	.16	.00	.05	—3.26
Friend: menst.	.08	.30	.07	2.97
Misc.: sex relations	.00	.13	.05	2.77
Friend: birth	.24	.46	.09	2.47
Rel.: menst.	.08	.00	.04	—2.22
Mother: menst.	.72	.52	.09	—2.17
Mother: birth	.48	.33	.09	—1.61
Misc.: menst.	.00	.04	.03	1.43
Father: sex relations	.30	.43	.10	1.32
*Mother: total	.48	.40	.08	—1.05
*Rel.: total	.10	.07	.03	— .97
Rel.: sex relations	.15	.09	.07	— .89
Misc.: birth	.04	.08	.04	.88
Rel.: birth	.08	.12	.06	.70
Mother: sex relations	.30	.35	.10	.52
Sister: menst.	.12	.13	.06	.16

*The starred items are based on 3 questions instead of 1, so there are 70 in each of the contrasting groups instead of 25 as there are for the other questions.

The Pearsonian correlation coefficient between the neurotic scores and the different sections of the questionnaire were:

- I. Childhood $+.49 \pm .05$.
- II. Marriage $+.32 \pm .06$.
- III. Pregnancy $+.38 \pm .06$ (Criterion).

TABLE 3
COMPARISON OF FAVORABLE AND UNFAVORABLE PRIMIPARAE IN RESPECT TO
DATA ON CHILDHOOD
Section I
(PE of the difference)

Item	M ₁	M ₂	PE _D	D	Relia- bility C
				PE _D	
Total score	56.20	68.96	2.42	5.28	
Home life	1.16	2.16	.19	5.20	79
Mother kind	1.12	2.12	.19	5.18	79
Mother irritable	2.37	3.43	.21	5.09	72
Enjoyed care of sibs	1.57	2.57	.25	4.00	79
Scolded often	2.20	2.92	.19	3.71	62
Care of sibs	1.12	2.20	.30	3.59	74
Happiness	1.32	2.08	.22	3.38	66
Parental harmony	1.32	2.12	.25	3.27	82
Mother's time	1.37	2.16	.24	3.25	76
Mother consistent	1.67	2.29	.22	2.86	69
Restraint by family	2.60	3.12	.20	2.63	67
Mother fair	1.56	2.16	.24	2.52	75
Mother answered questions	2.20	3.04	.34	2.49	80
Joined games at school	1.40	1.80	.16	2.47	67
Preferred play with boys	2.04	2.48	.19	2.28	79
Opportunity to play	1.72	2.16	.24	1.84	70
Free to ask mother questions	2.87	3.48	.34	1.82	74
Punished often	1.92	2.36	.25	1.77	67
Sex curiosity	2.80	3.16	.25	1.44	77
Father irritable	2.28	2.58	.24	1.29	66
Quarrel with brothers	2.08	1.72	.31	-1.16	69
Father kind	1.64	1.88	.24	.99	80
Use of opportunity to play	1.80	1.67	.20	-.68	59
Reaction to first menst.	3.16	3.32	.26	.62	78
Father's time	2.32	2.20	.27	-.44	74
Housework	2.68	2.60	.23	-.35	83
Quarrel with sisters	2.20	2.20			69

The units in this chart are score values on the rating scale from 1 to 5. The higher the score, the more it is associated with an unfavorable attitude on the part of the primiparae. A minus sign, here as before, indicates that the mean of Group I is larger than the mean of Group II, or that a particular item is associated with the opposite reaction of what was expected in making up the questionnaire.

C: The reliability of each question is shown here as measured by the coefficient of contingency.

This indicates a positive relation. It is interesting that neurotic tendency is more closely related to childhood than it is to the attitude toward pregnancy.

A more detailed study was made of the relation to the Neurotic

TABLE 4
COMPARISON OF FAVORABLE AND UNFAVORABLE PRIMIPARAE IN RESPECT TO
DATA ON MARRIAGE
Section II
(PE of the difference)

Item	M ₁	M ₂	PE _D	Relia- bility	
				D PE _D	C
Total score	26.16	32.28	1.04	5.91	
Economic security	1.60	2.42	.20	4.02	71
Parents approve marriage	1.12	1.96	.21	4.00	82
More social life than before	2.04	2.92	.22	4.00	76
Husband likes same people	1.72	2.28	.14	3.92	68
Desires career	1.16	1.88	.20	3.57	48
Enjoys sex relations	1.56	2.20	.18	3.49	79
Liking vs. expectation	2.17	2.76	.22	2.66	74
Disagrees with husband often	1.96	2.44	.18	2.65	70
More money than before	3.40	3.92	.24	2.13	73
Wanted to leave home	2.20	1.83	.29	-1.27	63
Would re-marry	2.75	3.08	.32	1.02	69
Reason for working	2.26	2.06	.31	-.67	78
Preparation for marriage	2.52	2.39	.24	-.54	64

TABLE 5
COMPARISON OF FAVORABLE AND UNFAVORABLE PRIMIPARAE IN RESPECT TO
DATA ON PREGNANCY: CRITERION
Section III
(PE of the difference)

Item	M ₁	M ₂	PE _D	Relia- bility	
				D PE _D	C
Total score	11.60	25.88	.50	28.69	
Wish to postpone it	1.32	4.08	.24	11.63	70
Would choose preg. again	1.17	3.28	.21	10.05	76
Fears being kept home	1.12	2.92	.19	9.56	77
Fears labor	1.32	3.40	.22	9.39	80
Disposition changed	2.20	4.00	.20	9.00	81
Wants job later	1.04	2.36	.21	6.18	85
Depressed	2.20	3.72	.25	6.00	77
Fears expense	1.28	2.46	.23	5.11	81

Inventory of the items found most significant for the attitude toward pregnancy. Of these, 43 items whose ratio $\frac{D}{PE_D}$ was over 3, only 8 had equal or more significance for the neurotic tendency.

These were: husband employed, total attitude toward childhood, home life and happiness in childhood. In marriage the significant items were: the total attitude, financial security, liking the same people as the husband, and good sex relations. In pregnancy the significant items were: fearing labor, feeling depressed, and thinking the child will be too great a financial burden.

IV. DISCUSSION OF RESULTS

Interpretation

This study shows some of the factors most frequently found with a favorable or unfavorable attitude toward pregnancy in the primipara. It is desirable to know the nature of these associations, that is, which factors are causal in relation to the main attitude, which are symptomatic, and which are related only through a common third factor. It would not be justifiable to draw conclusions as to the nature of the relationships from the present investigation, as it shows only some of the factors between which such relationships do exist. The time sequences, however, are highly suggestive, so in the following discussion, the items are classified according to whether they occur before or during the period of gestation or both.

A. Factors Temporally Preceding Pregnancy.

1. *Emotional impoverishment in childhood.* The mother's early emotional impoverishment is associated with her later unfavorable attitude toward pregnancy just as Levy found it to be associated with an attitude of rejection or over-protection toward the actual child. A close relationship in childhood between the subject and her mother is definitely associated with a favorable attitude, while lack of such relationship is associated with the opposite feeling. The subject's relationship with her father seems much less important. This finding is re-inforced by a similar finding in the study of Stemsrud and Wardwell (9). This may be because the father is away from home so much that strongly emotionalized contacts with him are much less frequent than with the mother. It might also mean that in our present society fewer men than women in a normal group develop extreme emotional attitudes. Having siblings, especially brothers, conditions the subject favorably, but having to care for them too often is an adverse factor. More only children are found in the unfavorable group. Quarrels with brothers

and sisters made no difference either way. Social relationships outside the home were less important than those within, and probably reflect the success or failure of the more primary family relationships. The total situation is more important than any single factor in it.

2. *Early responsibility.* Early responsibility in the form of caring for siblings is an antecedent factor that is associated with an unfavorable attitude toward pregnancy. If the subject enjoys caring for siblings, it becomes a favorable factor. Having to help with the housework was the usual custom of the group studied, and so was accepted without emotional friction by most of them. This finding does not correspond to Levy's theory concerning mother-child attitudes. It shows that early responsibility is not an adverse factor if the subject enjoys that responsibility. It also suggests that the effect of any given responsibility on the subject is modified by her economic status and personal evaluation of it.

3. *Sex education.* Sex education, in most cases, occurs in the life of the woman before her attitude toward pregnancy is established and it may be a partial determinant of that attitude, or both may be results of a common cause. The results in Tables 2 *A* and *B* show that Group I was older than Group II at the time of learning the nature of sex relations. All cases where this information was acquired before 10 were found in the unfavorable group. The greater age may be an advantage for several reasons. It may mean that the subject had a richer environment as she developed, so her early interest in sex was subliminated. It may mean that she lived in a better home or neighborhood than the girl in the crowded home whose attention is forced too early into sex matters. Or it may mean simply that sex adjustment was innately not a serious problem for her.

Receiving sex information from the mother is not necessarily beneficial. Many women who receive this information from their mothers may receive it in the form of warning against men. A sister who is closer to the girl's own age and who is not bound by the tradition of an earlier generation is here shown to be a favorable source. If the girl gets this information from a friend, or other outside source, either because her curiosity is suppressed at home, or because the information is thrust on her outside before she is ready for it, it is likely to be associated with an unfavorable attitude.

Previous studies, such as those of Figge (1) and Gleason (4) have indicated that the mother's sex instruction is a factor in the later relationship to her child. This study shows it is also important for the attitude of the prospective mother.

4. *Additional items.* There was a significantly greater percentage of Jews in the unfavorable group. A definitely greater proportion of Group II had complaints to make about affairs in general. These complaints were chiefly concerned with finances, relatives, or general health. More of the unfavorable group used contraceptives at some time or other, and fewer of them said they had planned to have the baby.

B. Simultaneous Factors.

1. *Physiological concomitants of pregnancy.* Nausea and vomiting, and a more prolonged period of nausea are much more likely to occur in the unfavorably disposed primipara than in the favorable one. While nausea and vomiting in pregnancy doubtless have more than one cause, the results of this study indicate that the psychological-emotional ones are of prime importance.

C. Factors that Occur Before and During Pregnancy.

1. *Marital situation.* The aspects of the marital situation that are associated with a favorable attitude toward pregnancy are: financial security, social and sexual compatibility. Here again the woman's adjustment to the whole situation is more important than any single item. A satisfactory general adjustment, however, implies successful adjustment in most of the smaller details of married life.

Levy says that anything that narrows the emotional life of the mother may cause her to be over-protective toward the child. He also says the chief cause of such a narrowing is unsatisfactory sexual or social life in marriage. The present study shows that this factor is also operative in producing an unfavorable maternal attitude before the birth of the child. Examples of a narrowed emotional life were given in the verbal statements of three of the subjects scored in the unfavorable group who wanted a child because their own mothers had recently died, or because their families were in another city and they felt lonely. This study shows the question of financial security to have relatively more importance than Levy and others have attributed to it.

2. *Neurotic Tendency.* Women who resent the fact of their pregnancies are definitely more neurotic than women who do not. Neurotic tendency alone, however, does not account for an unfavorable attitude. This is shown by its lack of relation to many of the items most closely associated with the general criterion.

The items associated with a neurotic tendency seem to be more general and subjective than the items associated with the specific attitude toward pregnancy, with the noteworthy exception that neurotic tendency as here measured is consistently associated with lack of economic security.

D. Results Relating to Method.

1. *Nature of the subject group.* It is important to remember that these results apply to a lower middle economic group only. Inferences can be made from this to other groups, but the differences must always be carefully watched for.

2. *Interrelation of significant factors.* Many of the factors shown above to be closely related to the attitude of the primipara are interdependent. They must not be regarded as separate items, but always as within a related whole. It was previously mentioned that this study cannot indicate the nature of the interrelationship of these factors. With different individuals, different items will assume varying amounts of relative importance. A single item can never be considered as predetermining. The significance of any one lies in its relationship to the whole complex of factors.

3. *The study of maternal attitudes during pregnancy.* This study shows beyond doubt that women's attitudes toward their expected children are widely differentiated and can be examined before the birth of the child, though there is no absolute proof that these attitudes would remain the same after the child is born.

4. *The questionnaire method.* The present questionnaire had a weakness which could be eliminated in future investigations of this type. This was lack of clarity in some of the questions, due to ambiguous phrasing, and occasionally, to the use of words beyond the understanding of some of the subjects, though most of the difficult words were eliminated in the preliminary form. This same criticism holds true of the Clark-Thurstone Inventory. While it was usable under the present circumstances, nevertheless it was vali-

dated on a group of college students and should be modified for a group with less education.

The advantages of the questionnaire were that it gave information on the subject over a long range of years. It enabled the writer to examine comprehensively a great many more subjects than would have been possible by free interviews or regular social histories in the same length of time. Its objectivity, as far as the examiner was concerned, eliminates some of the sources of error of other methods of personality study.

This method presents an opportunity for detailed analysis of previous theories, points a way to new theories, and permits study of a large number of subjects with very definite controls. This study has definitely shown the questionnaire method can be applied with profit to a field heretofore reserved for case studies and analyses

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